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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,308	03/29/2001	Usman A.K. Sorathia	82,222	7684

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Naval Surface Warfare Center
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EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
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1712

5
DATE MAILED: 06/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,308

Applicant(s)

SORATHIA, USMAN A.K.

Examiner

Michael J Feely

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. The objection to claim 11 has been overcome by amendment.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. The rejection of claim 1 (and dependent claims 2-14) under 35 U.S.C. 112, second paragraph, for the reasons set forth in prior office action, has been overcome by amendment.

4. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 (and dependent claims 2-14) are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are:

- The preamble of the claim recites, "A process of forming a composite structure by applying a barrier to an underlying substrate during fabrication". It is unclear if "during fabrication" means fabrication of the composite, fabrication of the barrier, or fabrication of the substrate.

- The first step of the process recites, "introducing a fire resisting agent to the barrier after formation thereof". It is unclear if "formation thereof" means formation of the fire resisting agent or formation of the barrier.

For the purpose of prior art analysis, claim 1 is interpreted as: A process of forming a composite structure by applying a barrier to an underlying substrate during fabrication (during fabrication of the composite structure), including the steps of: introducing a fire resisting agent to the barrier after formation thereof (after formation of the barrier); and attaching the barrier to the substrate before completing the fabrication of the composite structure.

6. Claims 3 (and dependent claims 4-8) and 10 (and dependent claim 11) is rejected under 35 U.S.C. 112, second paragraph, as being indefinite because it is unclear if "thereto through which the fire resisting agent is infused" means through the barrier or through the waterproofing cover skin. For the purpose of prior art analysis, claim 3 is interpreted as: A process as defined in claim 2, wherein said formation of the barrier, though which the fire resisting agent is infused, includes the step of: applying a waterproofing cover skin to the barrier.

Claim Rejections - 35 USC § 102

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. The rejection of claims 1, 9, and 12-14 under 35 U.S.C. 102(b) as being anticipated by Licht (US Pat. No. 4,467,577) has been withdrawn.

9. The rejection of claims 1, 2, 9, and 12-14 under 35 U.S.C. 102(b) as being anticipated by Ishikawa et al. (US Pat. No. 5,678,369) has been withdrawn.

Claim Rejections - 35 USC § 102/103

10. The rejection of claims 3-5, 7, and 10 under 35 U.S.C. 102(b) as being anticipated by or under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (US Pat. No. 5,678,369) has been withdrawn.

Claim Rejections - 35 USC § 103

11. Claims 1-5, 9-10 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Licht (US Pat. No. 4,467,577).

Regarding claims 1 and 2, Licht discloses a process of forming a composite structure (Abstract), by applying a barrier (column 2, lines 24-29) to an underlying substrate (column 2, lines 63-67; column 4, lines 12-19) during fabrication of the composite structure, including the steps of introducing a fire resisting agent to the barrier (column 2, lines 24-29); and attaching the barrier to the substrate before completion of the fabrication of the composite structure (column 2, line 63 through column 3, line 6; column 4, lines 12-19).

Licht does not disclose the introduction of the fire resisting agent to the barrier after formation of the barrier, wherein said step of introducing the fire resisting agent comprises: in-situ infusion of the agent into the barrier during said fabrication of the composite structure; rather, the fire resisting phenolic resin is added to the intumescent barrier layer prior to lamination. It has been found that a process of making a laminated sheet by reversing the order of the process steps found in the prior art is an obvious variation of the prior art process – *Ex Parte Rubin*, 128 USPQ 440 (Bd. App. 1959). In *Ex Parte Rubin*, a prior art reference disclosing the process of making a laminated sheet wherein the base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material, was held to render *prima facie* obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.

Therefore, if not explicitly disclosed in the reference, then the teachings would have been obvious to one of ordinary skill in the art at the time of the invention.

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Regarding claims 3-5 and 10, Licht discloses the process as defined in claim 2, wherein said formation of the barrier, though which the fire resisting agent is infused, includes the step of: applying a waterproofing cover skin to the barrier (column 4, lines 12-19), wherein said attaching of the barrier is performed by bonding thereof to the substrate (column 3, lines 2-6); and wherein the barrier is an intumescent mat (column 2, lines 24-29) and the fire resisting agent is a phenolic resin (column 2, lines 24-29); and the process as defined in claim 1, wherein said formation of the barrier, though which the fire resisting agent is infused, includes the step of: applying a waterproofing cover skin to the barrier (column 4, lines 12-19).

Regarding claims 9 and 12, Licht discloses the process as defined in claim 1, wherein the barrier is an intumescent mat (column 2, lines 24-29) and the fire resisting agent is a phenolic resin (column 2, lines 24-29); and wherein said attaching of the barrier is performed by bonding thereof to the substrate by application of an adhesive between the barrier and the substrate (column 3, lines 2-6).

Regarding claims 13 and 14, Licht does not explicitly disclose the process as defined in claim 1, wherein said attaching of the barrier is effected in response to said introducing of the fire resisting agent by infusion into the barrier during formation of the substrate; however, the step of introducing the fire resisting agent by infusion into the barrier layer during formation of the substrate would have been obvious for the same reasons set forth in claim 1. Regarding the limitation of attaching being effected by infusion into the barrier, this limitation is drawn the bonding of the barrier layer without the use of an adhesive. Licht discloses this type of bonding (page 2, line 63 through page 3, line 1), wherein said substrate is formed as a solid layer underlying the barrier attached thereto (column 2, line 55 through page 3, line 1).

Therefore, if not explicitly disclosed in the reference, then the teachings would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claims 15 and 16, Licht discloses a process for protective fabrication of a composite structure (Abstract) by applying a barrier layer (column 2, lines 24-29) after formation thereof to an underlying substrate (column 2, lines 63-67; column 4, lines 12-19), including the steps of: introducing a fire resisting agent into the barrier (column 2, lines 24-29); and attaching the barrier layer with the fire resisting agent infused therein to the substrate (column 2, line 63 through column 3, line 6) before completing said fabrication of the composite structure; and wherein the step of attaching the barrier layer to the substrate is effected without use of an adhesive (column 2, line 63 through column 3, line 1).

Licht does not disclose the step of introducing a fire resisting agent by in-situ infusion into the barrier layer after said formation thereof or the step of attaching the barrier to the substrate, which is effective by formation of the substrate during the in-situ infusion of the fire resisting agent into the barrier. However this sequence of process steps would have been obvious for the reasons set forth above in claim 1.

Therefore, if not explicitly disclosed in the reference, then the teachings would have been obvious to one of ordinary skill in the art at the time of the invention.

12. Claims 1-5, 7, 9-10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (US Pat. No. 5,578,369).

Regarding claims 1 and 2, Ishikawa et al. disclose a process of forming a composite structure (column 2, lines 27-47), by applying a barrier to an underlying substrate (column 15, lines 60-66) during fabrication of the composite structure, including the steps of introducing a

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fire resisting agent to the barrier (column 15, lines 60-62; column 16, lines 23-37); and attaching the barrier to the substrate before completion of the fabrication of the composite structure (column 15, lines 60-66).

Ishikawa et al. do not explicitly disclose the introduction of the fire resisting agent to the barrier after formation of the barrier, wherein said step of introducing the fire resisting agent comprises: in-situ infusion of the agent into the barrier during said fabrication of the composite structure; rather, a fire resisting phenolic resin foam is sandwiched between two substrates via a non-woven fabric barrier material (column 15, lines 60-66). It has been found that a process of making a laminated sheet by reversing the order of the process steps found in the prior art is an obvious variation of the prior art process – *Ex Parte Rubin*, 128 USPQ 440 (Bd. App. 1959). In *Ex Parte Rubin*, a prior art reference disclosing the process of making a laminated sheet wherein the base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render *prima facie* obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.

Therefore, if not explicitly disclosed in the reference, then the teachings would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claims 3-5, 7, 9-10, and 12, Ishikawa et al. disclose the process as defined in claim 2, wherein said formation of the barrier, though which the fire resisting agent is infused, includes the step of: applying a waterproofing cover skin to the barrier (column 15, lines 60-62; column 28, lines 32-41), wherein said attaching of the barrier is performed by bonding thereof to the substrate (column 15, lines 60-66); and wherein the barrier in an intumescent mat (column 15, line 66 through column 16, line 3; column 16, lines 40-47; column 2, lines 48-63) and the fire

resisting agent is a phenolic resin (column 16, lines 30-39; column 4, lines 59-64); and wherein the barrier is felt (column 15, line 66 through column 16, line 3; column 16, lines 40-47; column 2, lines 48-63) and the fire resisting agent is an intumescent coating (column 16, lines 30-39; column 4, lines 59-64); the process defined in claim 1, wherein the barrier is an intumescent mat (column 15, line 66 through column 16, line 3; column 16, lines 40-47; column 2, lines 48-63) and the fire resisting agent is a phenolic resin (column 16, lines 30-39; column 4, lines 59-64); wherein said formation of the barrier, though which the fire resisting agent is infused, includes the step of: applying a waterproofing cover skin to the barrier (column 15, lines 60-62; column 28, lines 32-41); and wherein said attaching of the barrier is performed by bonding thereof to the substrate (column 15, lines 60-66).

13. The rejection of claims 6, 8, and 11 under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (US Pat. No. 5,678,369) in view of Licht (US Pat. No. 4,467,577) stands for the reasons set forth in paragraph 9 of the previous office action.

Response to Arguments

14. Applicant's arguments filed May 23, 2002 have been fully considered but they are not persuasive. Applicants argue that the instant invention stands apart from the prior art because the instant invention introduces the fire resisting agent into the barrier material after the barrier has been formed. As set forth above, it has been found that a process of making a laminated sheet by reversing the order of the process steps found in the prior art is an obvious variation of the prior art process – *Ex Parte Rubin*, 128 USPQ 440 (Bd. App. 1959). Unless Applicant can demonstrate new or unexpected results of the instant invention, the claimed process would have been obvious to one of ordinary skill in the art, in light of the prior art processes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Feely whose telephone number is 703-305-0268. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Michael J. Feely
June 21, 2002



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700